Gradient/intercepts

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

1. Find gradient through $(2, 5)$ and $(6, 17)$. [2 marks]

$m = (17 - 5)/(6 - 2) = 12/4 = 3$.

Answer: 3.

2. Find gradient through $(1, 11)$ and $(5, 3)$. [2 marks]

$m = (3 - 11)/(5 - 1) = -8/4 = -2$.

Answer: -2.

3. Find gradient and y-intercept of $3x + y = 12$. [2 marks]

Rearrange to $y = -3x + 12$.

Answer: Gradient -3; y-intercept 12.

4. Find both intercepts of $y = 2x - 6$. [2 marks]

At $x = 0$, $y = -6$.

At $y = 0$, $2x = 6$.

Answer: $(0, -6)$ and $(3, 0)$.

5. A cost graph has gradient 4.5 dollars/km and y-intercept 9 dollars. Interpret both. [2 marks]

The intercept is cost at zero distance.

The gradient is the charge for one extra kilometre.

Answer: A fixed fee of 9 dollars plus 4.50 dollars/km.

6. What is the gradient of $x = 4$? [2 marks]

All points have zero horizontal change.

The ratio would require division by zero.

Answer: Undefined; no finite gradient.